Pearson BTEC Level 3 Nationals Extended Certificate, Foundation Diploma, Diploma, Extended Diploma

Time 2 hours

Paper reference

31760H

Information Technology
UNIT 1: Information Technology Systems

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and learner registration number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need*.

Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question*.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

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Pearson

Answer ALL questions. Write your answers in the spaces provided.

1 James is a painter and decorator. He creates video files to advertise his business online.

   (a) James uses his account to upload his videos to an online forum.

      (i) James must change his password regularly.

         One feature of a strong password is that it must have a minimum of eight characters.

         Give **two other** features of a strong password.

(2)

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      (ii) Changing his password regularly is one way James can keep his password secure.

         Give **two other** ways that James can keep his password secure.

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(iii) Explain **one** way, other than using an online forum, in which James can communicate and interact with online communities.

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(b) James stores his files with a cloud storage provider. The cloud storage provider has recently been hacked and data has been breached.

Explain **one** potential impact to James and **one** potential impact to the cloud storage provider of this data breach.

(4)

James

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Cloud storage provider

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(c) James is considering different options to store and backup his video files.

Explain **two** benefits of using removable storage.

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(d) James downloads and watches videos from the internet to update his knowledge of painting and decorating techniques.

Describe how James can protect his computer from harmful downloads.

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(e) James needs to make sure the videos he uploads are accessible on all platforms.

Discuss the features of the video file formats he could use to make sure they are accessible on all platforms.

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(Total for Question 1 = 24 marks)

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QUESTION 2 BEGINS ON THE NEXT PAGE.

2 Patricia is the manager of a gaming shop. The shop sells a range of games and gaming consoles.

Patricia collects and stores details of customers, stock and sales in a computerised stock control database system.

(a) **Figure 1** shows an input form Patricia has designed to collect data.

Account No. *

ABC-12345-PR

Customer Title *

| Mr | V |

Date of birth (dob) *

dd/mm/yyyy

Surname*

Lewis

James *

James

First line of address *

123 High Street

Second line of address *

High Green

Town *

Smallville

Postcode *

SM12 3PT

Tel Number (home) *

(01234) 567890

Mobile number

_ _ _ _ _ - _ _ _ _ _ _

Product number *

765/074728

Sony PS4

£ _ _ _ _ . _ _

Figure 1

(i) Explain **three** types of validation that could be used on the data before saving the data in the database.

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Validation is one method that can be used to ensure the data are accurate before they are stored in the database.

(ii) Explain **one** other method that could be used.

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(b) Explain **two** benefits of using a computerised stock control system.

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(c) Patricia produces sales reports each month.

The reports include:

- the number of sales by each member of staff
- the number of sales for each product.

Patricia wants to display the results of the data visually, but she is not sure which type of chart is more suitable.

Discuss the differences between a pie chart and a line chart to display these types of information.

(8)

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(Total for Question 2 = 20 marks)

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QUESTION 3 BEGINS ON THE NEXT PAGE.

3 Molly is an architect who works from home.

Molly's study has a desktop PC and a printer. She uses the PC to create designs. She uses the printer to print hardcopies of the final designs.

Molly uses a smartphone and tablet. When she visits her clients she uses the tablet to show them the designs.

Molly's children use a laptop, tablet and smartphone.

There is a games room in Molly's house. There are two gaming consoles and a smart TV in the games room.

There is a smart TV in the lounge.

Access to the internet is essential.

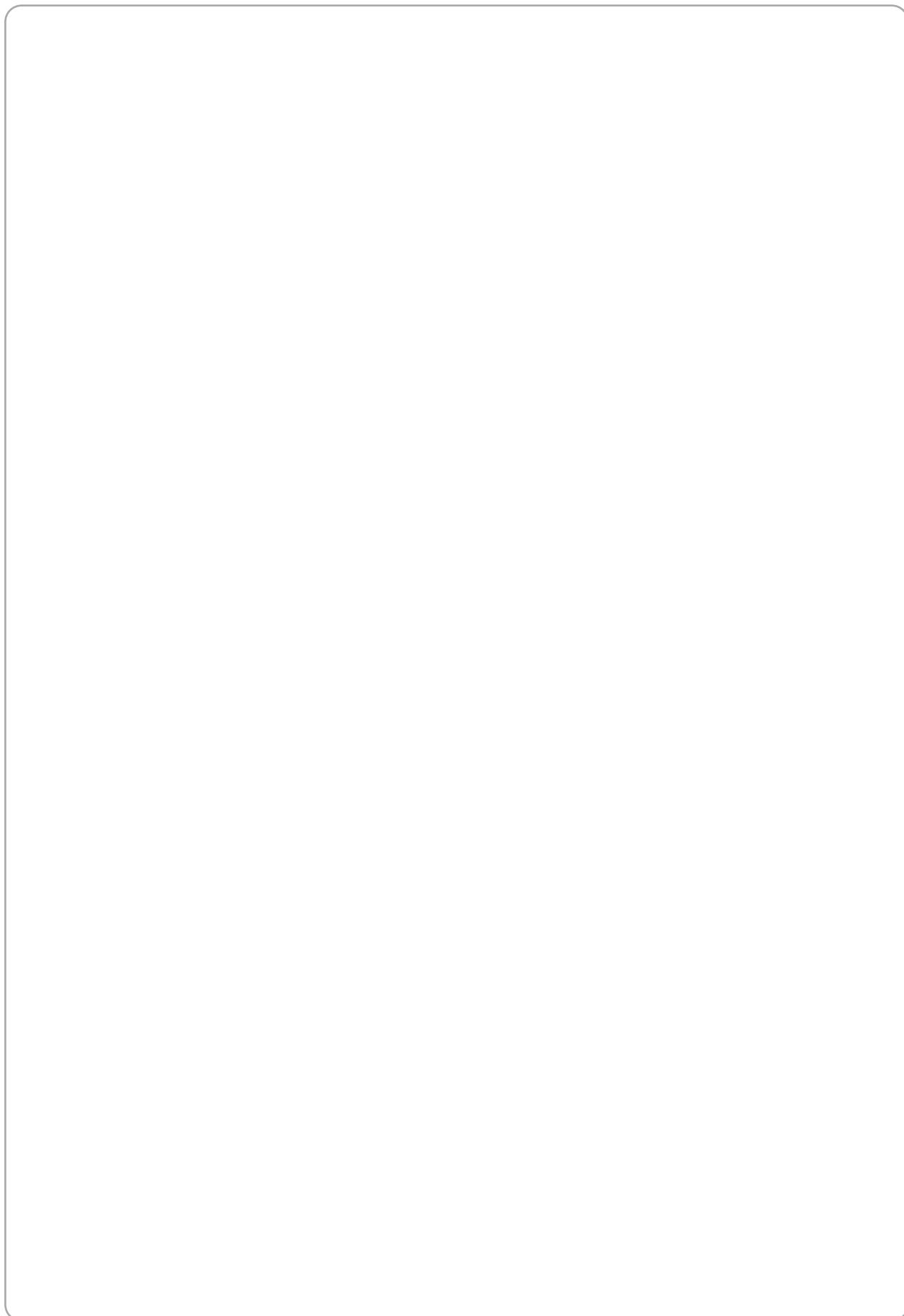(a) Draw a diagram to show Molly's home network.

The diagram should include devices and systems that are used, including:

- desktop PC and printer (study)
- laptop
- tablet
- smartphone
- gaming console (games room)
- smart TVs (games room and lounge)
- connection type(s) used
- annotations.

Use this space to draw your diagram for Q3a.

(6)

(b) Molly emails plans to her clients. Her email provider encrypts the emails.

Describe how encryption works to enable the plans to be transmitted securely.

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(c) Modern gaming consoles are multifunctional devices.

Explain the purpose of a multifunctional device.

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(d) Gaming consoles often use wireless controllers.

Explain **two** benefits of using wireless controllers.

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(e) Molly's children play online games, and they also communicate with other online gamers.

Molly is concerned about the risks involved in online communication.

Discuss the potential risks with online communication.

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(Total for Question 3 = 24 marks)

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QUESTION 4 BEGINS ON THE NEXT PAGE.

4 ESG is an organisation that provides training courses.

(a) The training courses help people with a disability or impairment to use PCs and other digital devices.

Analyse the features and uses of suitable peripheral accessibility devices that could be used in the training courses.

(10)

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(b) The training courses are run from the ground floor of a two-storey building. The first floor has just become vacant.

At the moment the administration team currently works in a different building.

ESG has decided to move the administration team to the first floor.

A local area network (LAN) will be used to connect the computers.

Cost is one factor that will affect ESG's choice of network.

Discuss the implications of installing a new network for ESG and its employees.

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(Total for Question 4 = 22 marks)

TOTAL FOR PAPER = 90 MARKS

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